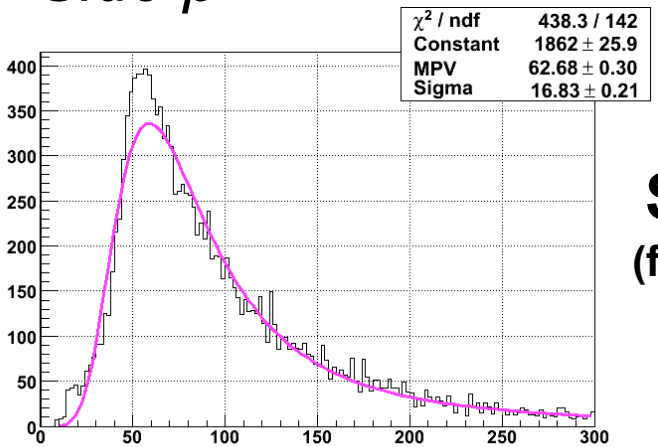
Outline

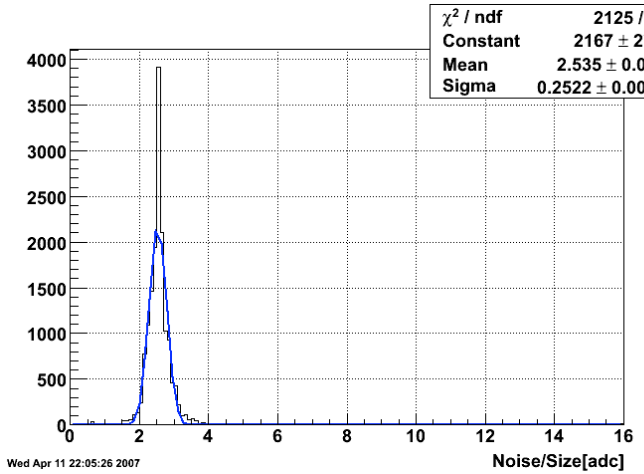
- First look at the 2007 data with the offline reconstruction *(~1000evts)* :
  - Clusters.
  - Reconstructed Space points.
- FastOffline plots:
  - 2 differents sets.
  - StEvent does not have all the infos I wanted.

Clusters properties (ladder 12)

Side p



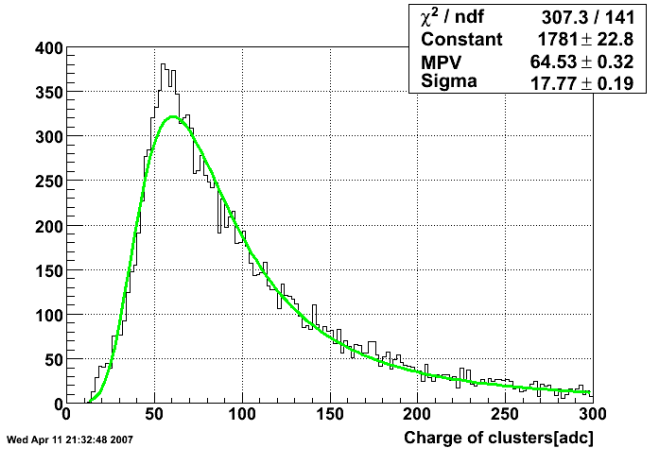
Signal
(fit landau)

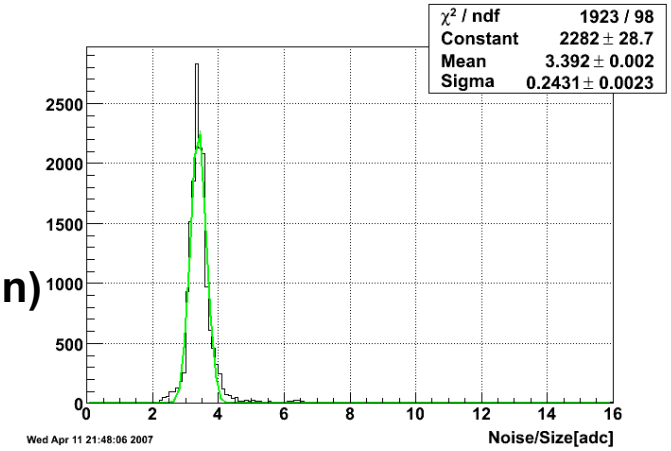


Noise
(fit gaussian)

S/N=63/2.6~24

Side n

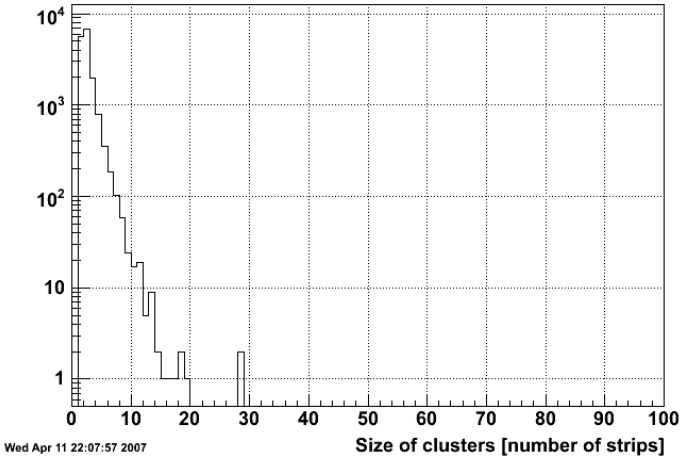




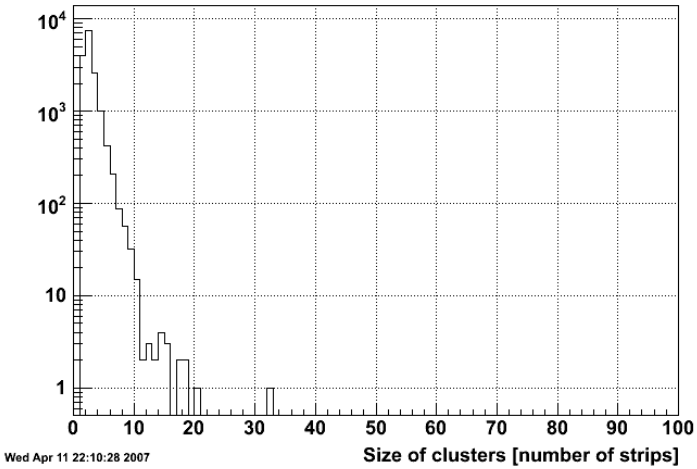
S/N=64/3.4~19

Clusters properties (II)

Side p



Side n

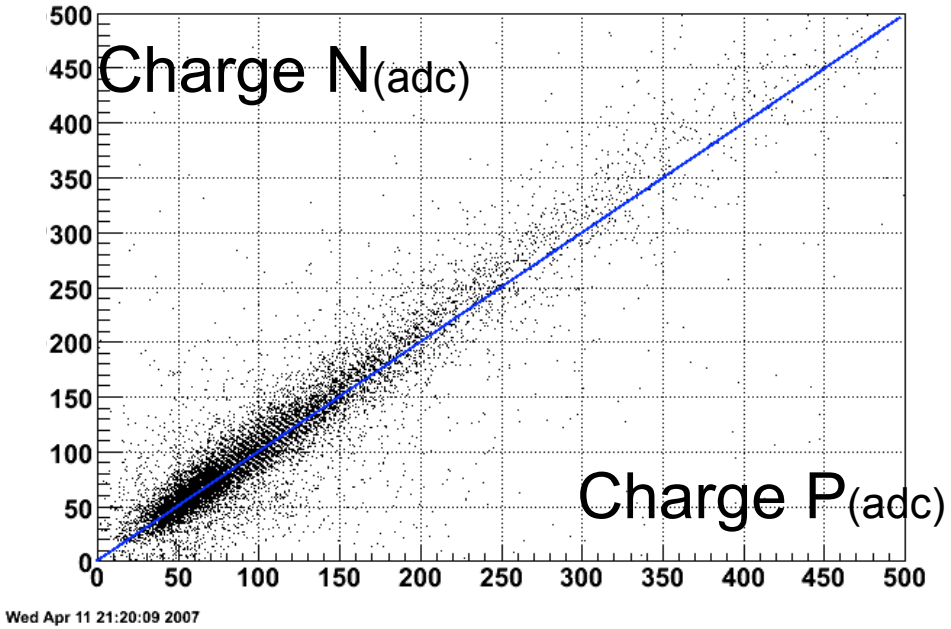


- Typical size of clusters :

Number clusters (size<6)/All clusters	Ladder 12	All ladders
Side P	86 %	91 %
Side N	95%	94,5%

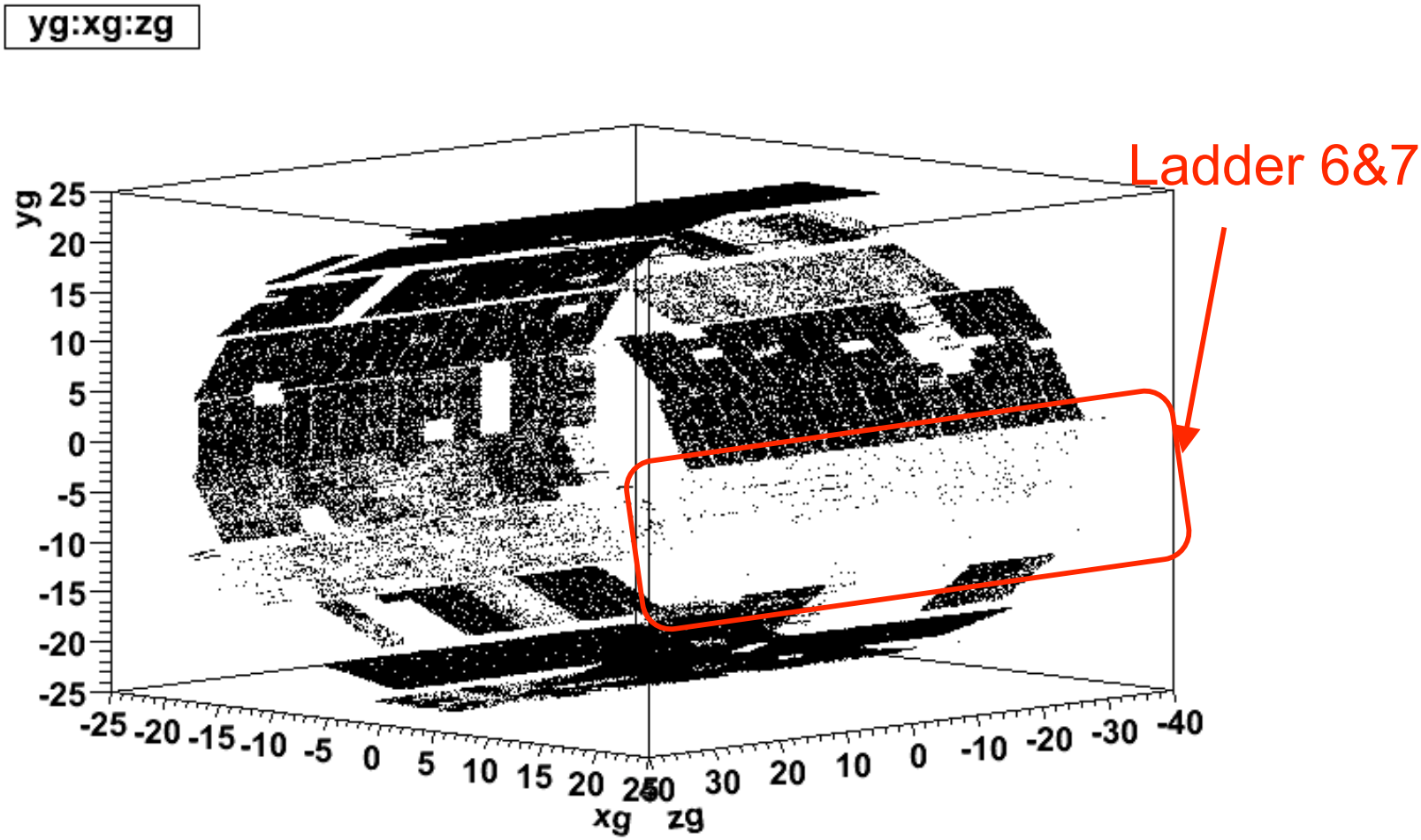
- No unrealistic clusters reconstructed.

Hits reconstructed

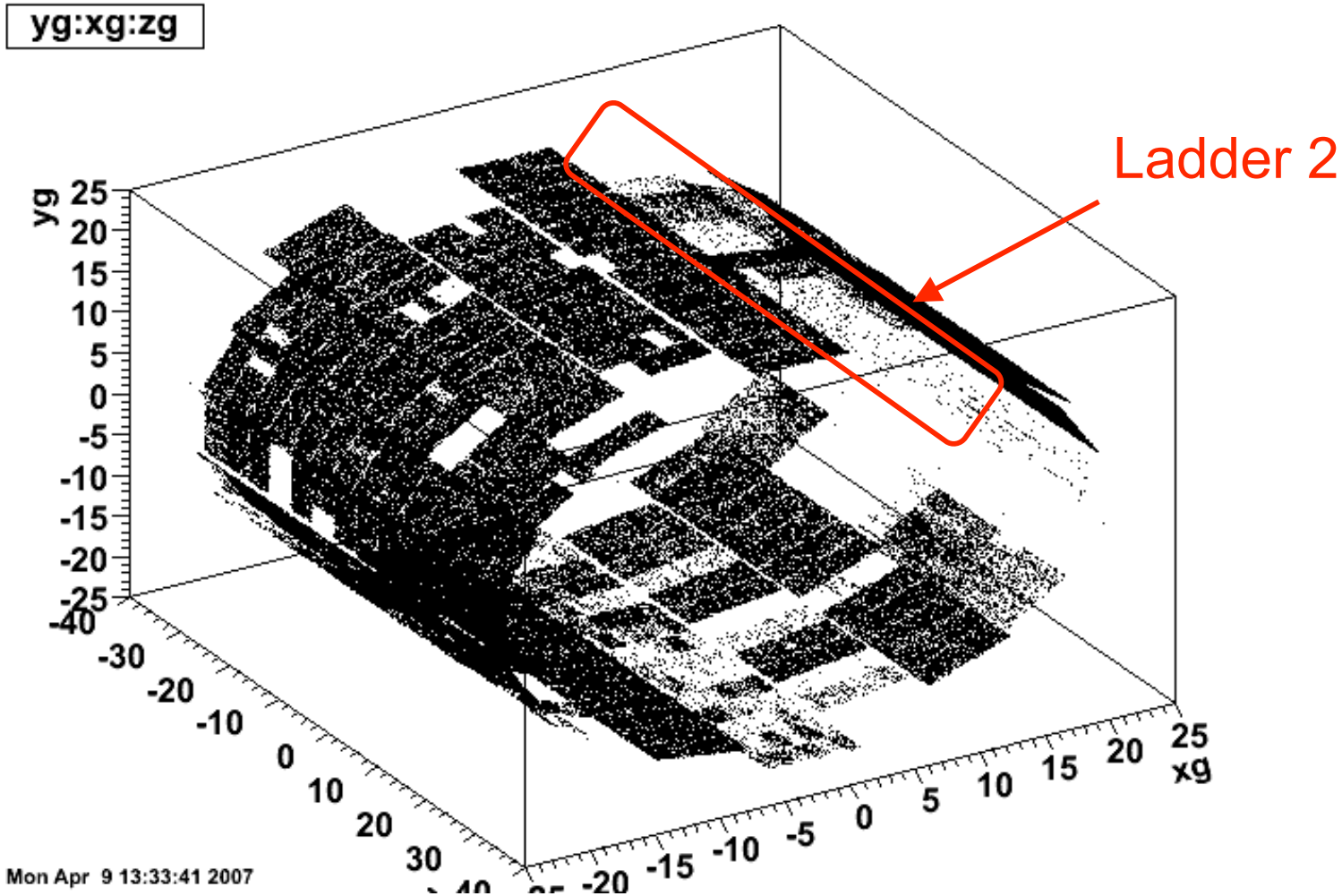


- Real hits : from particle , not electronic noise.
- Correlation between P and N side.
- Correlation seen with the new mapping (Ladders read by the daq and the real Ladders).

Position of reco. hits in Star frame



- Ladder 6N off : no hits reconstructed
- Ladder 7 : off on both sides : no hits reconstructed

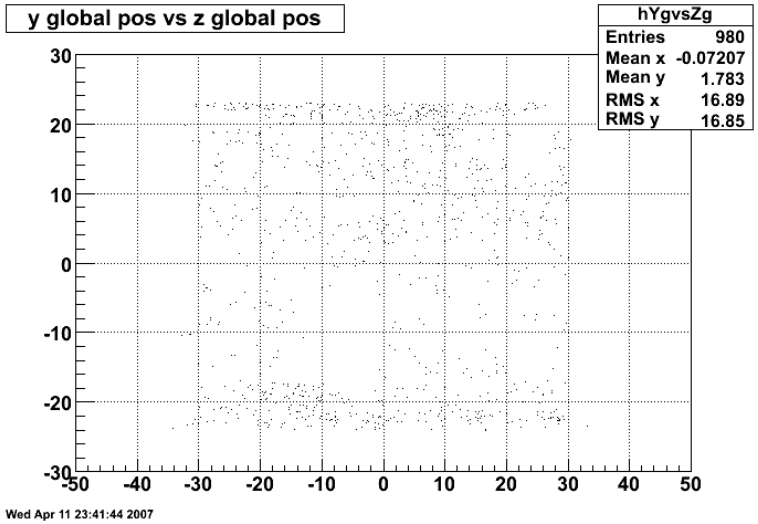


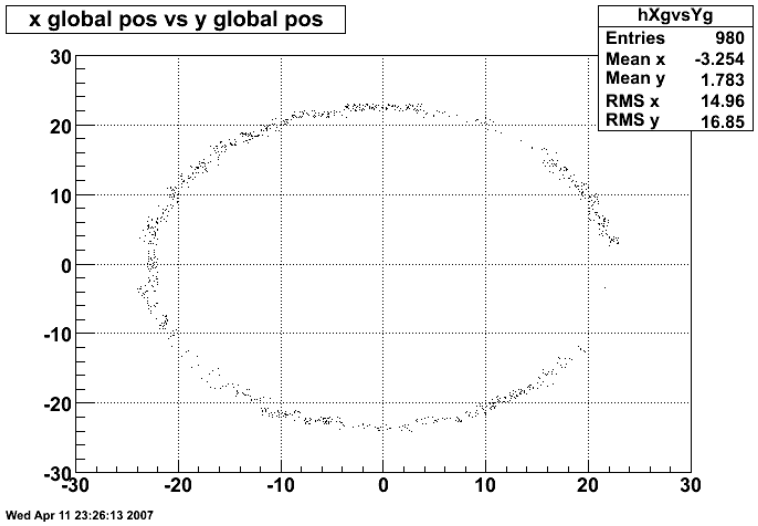
• Ladder 2 : exemple of ladder with HV below the depletion voltage value.

FastOffline QA

- Utility :
  - avoid people to do the reconstruction by their side.
  - Feedback every day.
- 2 sets :
  - for experts (debug) and for the QA shifter (as a control that ssd is working well/is including in the run).
- Bottom part (for ssd):
  - We don’t write in StEvent all the informations that I would have : need to access the Ssd Classes :
    - What we have : global position, local position of hits, ladders, wafer.
    - What is missing : charge of hits, properties of clusters for fast debug.
  - Cannot put a 3-d histos …

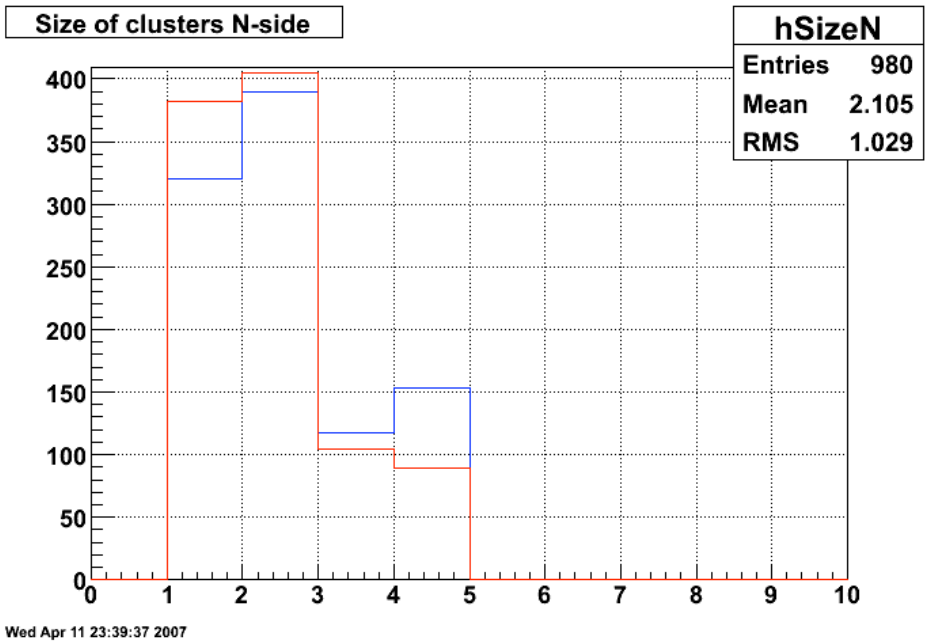
Histos





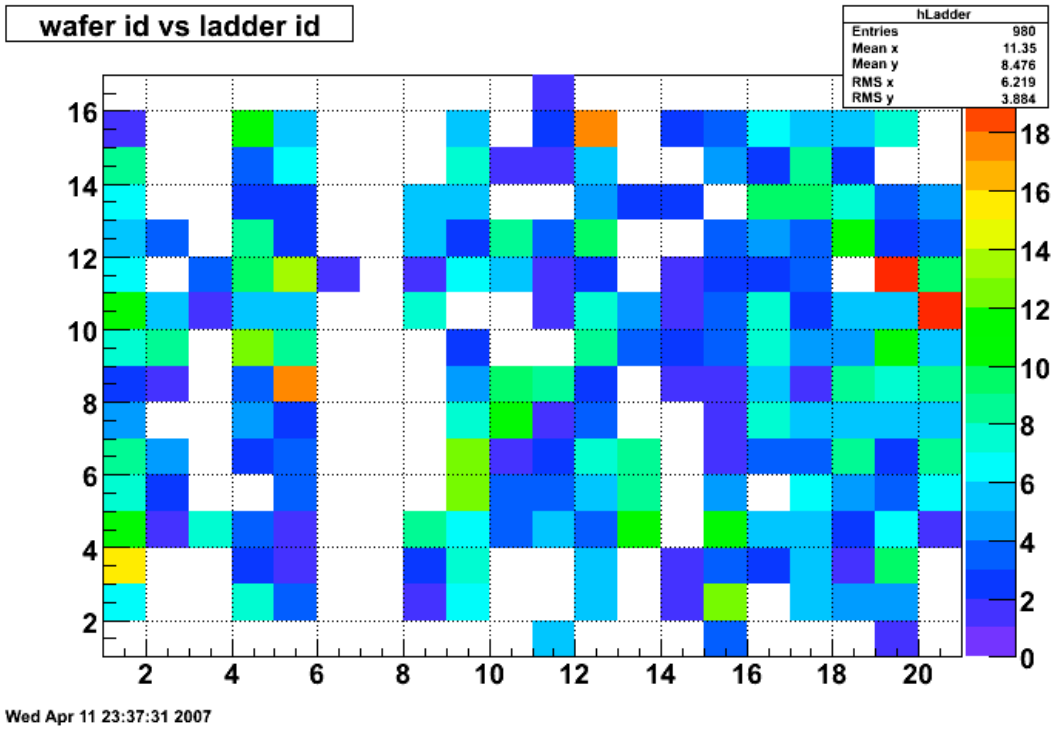
- Global :
  - Visuel
  - 3-d histos impossible then
    (X_g vs Y_g)
    (X_g vs Z_g)
    (Y_g vs Z_g)
- Local : not meaningful

Size of clusters



- Side P : red
- Side N : blue
- Not very significant because the size is limited to 4 strips :
  - When a size >4 strips, we forced it to 4.

Map (ladder vs wafer)



- useful to detect which wafer is not working / noisy.
- Improvement :

$$\left(\frac{Number-of-Hits_i}{All-hits-reconstructed}\right)_{evt}$$

-->density of hit per wafer, per event.

Summary & to do list

- Not unexpected behaviour of ssd.
  - Systematic needed (ladders by ladders).
- Need confirmation for the mapping.
- Simulation will decide for the best configuration (all ladders by passed **or** by-pass the wafers at the edge).
- Improve the QA Offline plots.